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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,002	07/22/2003	Christof Ballweg	PD020069	3655

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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT	PAPER NUMBER
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2627

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10/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/625,002	Applicant(s) BALLWEG, CHRISTOF	
	Examiner Christopher R. Lamb	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-9 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-9 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5-9, 11/1, and 11/5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maegawa et al. (US 6,345,018) in view of Seki (US 3,840,817).

Regarding claim 1:

Maegawa discloses:

A method for detecting a wobble signal (Maegawa discloses several embodiments: that of Fig. 6 is relied upon for some dependent claims; that of Fig. 9 is relied upon for others; either suffices for this claim), comprising the steps of:

generating a reference signal corresponding in phase and frequency to an unmodulated wobble signal (column 9, lines 1-30 or column 10, lines 10-50);

outputting an output signal indicating the amplitude and the phase of the wobble signal (column 9, lines 1-30 or column 10, lines 10-50).

Note also that Maegawa determines the amplitude and phase of the wobble signal by comparing the phase of the wobble signal and the reference signal (column 9, lines 1-30 or column 10, lines 10-50).

Maegawa does not disclose:

generating a sum signal and a difference signal of an input signal, which comprises a wobble signal and the reference signal;

performing a phase sensitive rectification of the sum signal and the difference signal;

comparing the amplitudes of the rectified sum signal and the rectified difference signal to obtain the relative phase between the wobble signal and the reference signal.

Seki discloses a method comparing the phase of two signals, comprising:

generating a sum signal (Fig. 3: M) and a difference signal (Fig. 3: N) of an input signal, which comprises two signals (Fig. 3: A and B);

performing a phase sensitive rectification of the sum signal and the difference signal (performed by the squaring circuits D_1 and D_2 of Fig. 3);

comparing the amplitudes of the rectified sum signal and the rectified difference signal to obtain the relative phase between the wobble signal and the reference signal (column 3, lines 45-60).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Maegawa generating a sum signal and a difference signal of an input signal, which comprises a wobble signal and the reference signal, performing a phase sensitive rectification of the sum signal and the difference signal, and comparing the amplitudes of the rectified sum signal and the rectified difference signal to obtain the relative phase between the wobble signal and the reference signal.

The rationale is as follows:

Maegawa discloses determining the amplitude and phase of the wobble signal by comparing the phases of the wobble and the reference signals. Seki discloses a method to compare the phases of two signals. Seki discloses that this method allows the phase detector circuit to be easily formed as an integrated semiconductor circuit device (column 2, lines 20-30): therefore it would have been obvious to use Seki's phase comparator instead of the one of Maegawa in order to easily form the phase detector circuit.

Regarding claim 5:

Maegawa in view of Seki further comprises the step of generating a further difference signal of said processed rectified sum signal and said processed rectified difference signal (Seki column 3, lines 45-55).

Regarding claim 6:

Maegawa in view of Seki further comprises the step of integrating said rectified sum signal and said rectified difference signal over a wobble period (Maegawa, column 9, lines 25-30; Fig. 6: 31; in Maegawa in view of Seki it is the difference signal that is integrated here, but that is the combination of the rectified sum signal and rectified difference signal).

Regarding claim 7:

Maegawa in view of Seki comprises the step of integrating said further difference signal over a wobble period (Maegawa, column 9, lines 25-30; Fig. 6: 31).

Regarding claim 8:

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In Maegawa in view of Seki, the reference signal is calculated (column 9, lines 1-30).

Regarding claim 9:

Maegawa discloses wherein the reference signal is stored in a table (column 10, lines 10-50).

Regarding claims 11/1 and 11/5-11/9:

These are apparatus claims corresponding to the earlier method claims; the apparatus of Maegawa in view of Seki has already been discussed in the rejection of those claims.

Response to Arguments

3. Applicant's arguments filed August 14th, 2007 have been fully considered.

With regards to the rejection of claims 1, 5-9, and 11 under 35 USC 112, second paragraph:

Applicant's arguments have been fully considered and are persuasive. The rejection under 35 USC 112, second paragraph, has been withdrawn.

With regards to the rejection of claims 1, 5-9, and 11 under 35 USC 103:

Applicant's arguments have been fully considered but are not persuasive.

Applicant argues "neither Maegawa et al. or Seki describe or suggest a method for detecting a wobble signal of an optical disk in which a phase sensitive rectification of the sum signal and the difference signal is performed before comparing the amplitudes."

However the combination discloses exactly this.

Seki is relied upon to teach the phase comparison method. In Fig. 3 of Seki, the sum signal and the difference signal are created by the "SUM SIGNAL SYNTHESIZING CKT" and the "DIFFERENCE SIGNAL SYNTHESIZING CKT."

Those two signals undergo phase sensitive rectification when they pass through the two "SQUARING CKT", D_1 and D_2 .

The two amplitudes are then compared by the transistors Q_1 and Q_2 (Seki column 3, lines 45-60).

As can be seen in Seki Fig. 3, the signals pass through the squaring circuits before they reach the transistors: therefore the phase sensitive rectification is performed before comparing the amplitudes.

Applicant's argument regarding Yoshimura et al. is moot since Yoshimura has not been relied upon to reject the amended claims.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (571) 272-5264. The examiner can normally be reached on 9:00 AM to 6:30 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 10/9/07

/William Korzuch/

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